

(FILE 'USPAT' ENTERED AT 09:39:35 ON 12 MAY 1999)

L1 7 S EXTRUSION GELATINIZ?
L2 60333 S (PET OR DOG OR CAT)
L3 5 S L1 AND L2
L4 3804 S HUMECTANT
L5 0 S L3 AND L4
L6 174461 S (GLYCERIN? OR GLYCOL)
L7 0 S L3 AND L6
L8 252390 S FIBER?
L9 5 S L8 AND L3
L10 77539 S (SORBITOL OR GLYCEROL)
L11 0 S L9 AND L10
L12 214 S L2 AND L4
L13 75 S L8 AND L12
L14 (130583)S CELLULOSE
L15 (130583)S CELLULOSE

5 773 070
4 745 460
5 407 661

(3 patent)

2. 5,773,070, Jun. 30, 1998, Method of forming a semi-moist jerky or leathery **pet** foods or treats; Massoud Kazemzadeh, 426/573, 516, 518, 805 [IMAGE AVAILABLE]

US PAT NO: 5,773,070 [IMAGE AVAILABLE]

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ABSTRACT:

A formulation and process to produce a **pet** food or treat that has been reshaped to various sizes and shapes such as strips, pellets, sheets, etc., from the addition of a number of raw ingredients which were mixed and heated and fused together to form a continuous matrix which remains flexible and non-brittle at low moistures of 20-40%, water activity of 0.30-0.65, and having a low glass transition compound as the major adhesive component of the matrix, thus being stable at minimum or no packaging atmosphere at room temperature is herein described. The process is carried out in a twin-screw, self-wiping, corotating and intermeshing extruder.

TITLE: Method of forming a semi-moist jerky or leathery **pet** foods or treats

ABSTRACT:

A formulation and process to produce a **pet** food or treat that has been reshaped to various sizes and shapes such as strips, pellets, sheets, etc., from the . . .

SUMMARY:

BSUM(2)

This invention is related to a semi-moist **pet** food or **pet** treat product and an extrusion process for preparing the product which can have as described a flexible or jerky-like characteristic. . .

SUMMARY:

BSUM(4)

Developments in this field have a long history, with most dealing with the concept of a **humectant** being added to a matrix in order to entrap the water molecules to an extent that the osmotic pressure of. . .

SUMMARY:

BSUM(13)

U.S. Pat. No. 4,444,796 describes a method for producing a **pet** food with good storage stability, having a water content of 20% to 45% by weight, and a pH of 6.0. . . 1500 microns, and comprising as a main ingredient a fine powder of sorbic acid with a starting material for the **pet** food, and heating these materials simultaneously with or after the mixing.

SUMMARY:

BSUM(17)

The . . . additives to keep the water activity of the finished product low, has been extensively investigated. The ideal product in the **pet** treat or food market would be to produce a constructed product

with similar ingredients as, for example, leathery or flexible. . .

SUMMARY:

BSUM(18)

The presence of water in the **pet** foods in different degrees makes it possible to classify the various **pet** foods into four classes. First are the low moisture foods containing less than about 15% by weight moisture, which are known as dry **pet** foods and are shelf stable because the water activity at the range of 0.2 to 0.4 does not lend itself. . . to be aseptically canned or preserved due to their stability by their chemical characteristics. Second are the high moisture containing **pet** foods having about 85% by weight moisture, and which require aseptic canning for preservation. These are the well known canned **pet** foods. Third are the semi-moist or intermediate moisture **pet** foods containing moistures in the order of 20%-40%. These products are generally characterized by a soft, crumbly texture and densities. . . and also decreasing the water activity (Aw) to a level which prevents mold and bacterial growth. The fourth category of **pet** foods includes meat treats. These **pet** treats or **pet** jerkins are distinguished from conventional dry **pet** foods both by composition and in the method of preparation. Since the starting mixtures for these products are high in. . . need for refrigeration or special packaging. These products are chewy, low to intermediate moisture, and relatively dense compared to conventional **dog** or **cat** foods or even semi-moist foods. These products are shelf stable due to low water activity (Aw) resulting from the reduced. . .

SUMMARY:

BSUM(25)

The . . . lower water activity provide for a leathery or jerky-like texture which can be used for the marketing and manufacturing of **pet** treats and foods made from blends of fruit purees, and starches, proteins and cellulose.

SUMMARY:

BSUM(27)

The . . . with chewy or leathery texture, shaped in various configuration including bars, pellets, sheets, and any derivatives of such for the **pet** food and treat industry.

SUMMARY:

BSUM(28)

The present invention also includes a method for producing a **pet** food or treat product using a twin screw extruder, which is self wiping, corotating and intermeshing, in a multi-zone process. . .

SUMMARY:

BSUM(29)

Accordingly, the invention is a method for producing a semi-moist **pet** food or treat product having a flexible or jerky-like characteristic with a chewy or leathery texture comprising carrying out in. . .

SUMMARY:

BSUM(34)

Another aspect of the invention is a **pet** food or **pet** treat product prepared by the above method having a moisture content of about 20 to 40%, a water activity of. . .

SUMMARY:

BSUM(35)

The present invention allows the **pet** food and treat manufacturer to utilize in their formulation other ingredients with low glass transition in order to produce the. . . provided from purees of fruits or components of cereals, vegetables or meats or synthetically prepared from various sources, such as **glycerin**, modified fats and oils, corn or rice syrups holding together the mixtures of grains and cereals and proteins as well as other ingredients commonly used in the **pet** food or treat industry such as gums and hydrocolloids and various modified carbohydrates. The most outstanding benefit of this product/process. .

DRAWING DESC:

DRWD(2)

The FIGURE illustrates the multi-zone extrusion process used to prepare the **pet** food or **pet** treat product.

DETDESC:

DETD(2)

The present invention relates to animal or **pet** foods that are composed of proteins, starch, cellulose, hydrocolloids, and other minor ingredients common to **pet** food or treats having animal, plant or cereal and fruit sources. While the development and production of nutritious animal and **pet** foods and treats are well understood by those skilled in the art, there is a continuous problem of making these foods pliable, palatable and, in most treat-like **pet** foods, flexible as well under normal atmospheric conditions. In order to counteract these problems, most manufacturers rely on packaging of. . . humectants, such as salts, has been successful in achieving the desired characteristics of pliability and flexibility in these products. Most **pet** food components, other than starch and cellulose **fiber**, can be manipulated by the addition of the above cited ingredients.

DETDESC:

DETD(3)

The components starch and **fiber** are very similar in their chemical make-up, in that they both are polymers of hydrocarbon, and the only difference is in the way the molecules of glucose are attached to each other. Starch and **fiber** are always rigid in low humidity, and usually do not have much affinity toward high moisture. In the presence of high moisture, however, these two components of **pet** food tend to become plasticized and pliable. The main focus of this invention is to provide enough moisture within the. . .

DETDESC:

DETD(7)

The semi-moist **pet** food or **pet** treat comprises three basic components: a filler, a hydrocolloid source and a binder where the three

components are mixed in. . .

DETD(9)

As the filler component in the **pet** food or **pet** treat product, the following is illustrative of materials employable and is not a limitation for purposes of the invention. These are, for example, flour, starch, pre-gelled starch, sugars, **fibers** such as cellulose, bran and the like, fruit solids, fruit **fibers**, meat solids (dehydrated meats), spray dried meat protein and the like.

CLAIMS:

CLMS(1)

We claim:

1. A method for producing a semi-moist **pet** food or treat product having a flexible or jerky-like characteristic with a chewy or leathery texture consisting essentially of carrying. . .

6. 5,407,661, Apr. 18, 1995, **Pet** chew product having oral care properties; Alexander J. Simone, et al., 424/49, 57, 401, 439, 442; 426/805, 807 [IMAGE AVAILABLE]

US PAT NO: 5,407,661 [IMAGE AVAILABLE]

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ABSTRACT:

An edible **pet** chew product having a flexible cellular matrix in which is contained a cellulosic fibrous material such as corn cob fractions having a mechanical cleansing function, which when chewed by the **pet**, effects a reduction in plaque, stain and tartar on the **pet's** teeth. An oral care additive may be incorporated in the matrix to inhibit dental problems, the composition of the cellular matrix being substantially inert to the oral care additive.

TITLE: **Pet** chew product having oral care properties

ABSTRACT:

An edible **pet** chew product having a flexible cellular matrix in which is contained a cellulosic fibrous material such as corn cob fractions having a mechanical cleansing function, which when chewed by the **pet**, effects a reduction in plaque, stain and tartar on the **pet's** teeth. An oral care additive may be incorporated in the matrix to inhibit dental problems, the composition of the cellular. . .

SUMMARY:

BSUM(7)

Commercial animal **pet** foods do not provide sufficient surface cleaning to teeth to provide for plaque removal from the animal's teeth necessary for. . .

SUMMARY:

BSUM(8)

A . . . of products are manufactured to provide animal pets with objects to chew or gnaw. They are intended to provide the **pet** with exercise for the teeth to maintain a healthy condition satisfying a need which arose when the natural **pet** food, raw meat, was replaced with processed **pet** foods. Rawhide strips knotted on the ends to resemble bones, for example, provide abrasion for cleaning teeth by removing

tartar and massaging the gums, which is not provided by the typical canine **dog** food. The **dog** chews are expensive, and the indigestible leather fragments swallowed by the dogs frequently cause severe gastrointestinal blockage or diarrhea.

SUMMARY:

BSUM(10)

U.S. Pat. Nos. 5,000,940 and 5,000,943 disclose baked **dog** biscuits containing an inorganic pyrophosphate salt, e.g., tetrasodium pyrophosphate, which when chewed and/or eaten by dogs cause a reduction in. . .

SUMMARY:

BSUM(11)

The oral care agents incorporated in the **pet** food products of the prior art have either limited efficacy in oral care, or are incompatible and deactivated by the ingredients found in the products into which these agents are incorporated. For example, anti-tartar pyrophosphate salts incorporated in **pet** food products containing an excess of polyvalent cations, and particularly calcium, are rendered inactive by the calcium ion interacting with. . .

SUMMARY:

BSUM(12)

Attempts . . . fluoride compounds in animal chews were unsuccessful as these compounds were also incompatible and unstable with ingredients from which the **pet** food product was fabricated.

SUMMARY:

BSUM(13)

A further disadvantage of the prior art **pet** oral care products is that they are baked products which are hard and brittle and, although abrasive and initially effective. . .

SUMMARY:

BSUM(14)

There is therefore a need in the **pet** food field for a product which is edible and consumable without gastrointestinal complications and effective to remove plaque and to inhibit the formation of tartar in **pet** animals such as dogs and cats.

SUMMARY:

BSUM(16)

This . . . are inert to oral care additives to assure maximum bioavailability of the additives. The extruded product preferably contains starch, cellulosic **fibers**, **humectant**, proteineous binder and one or more oral care additives.

DETDESC:

DETD(2)

In . . . the edible chew product of the present invention is made by

admixing a starch containing ingredient, a cellulosic fibrous material, **humectant**, and proteineous binder and oral care additives such as tartar control and anticaries additives and then subjecting the moistened admixture. . . .

DETDESC:

DETD(4)

The . . . tooth surfaces when the product is chewed by the animal is a cellulosic fibrous material including corn cob fractions, cellulose **fiber** and other plant **fibers** or microbial polysaccharides. Corn cob fractions are preferred.

DETDESC:

DETD(5)

Although the cellulosic fibrous materials are not digested by the **pet**, the **pet**'s digestive system is capable of handling such **fibers** by passing them through its system substantially unchanged. In fact, the cellulosic fibrous materials provide increased roughage and bulk so as to assist the **pet** in the digestion of food.

DETDESC:

DETD(20)

A **humectant** is incorporated in the chew product to enhance the flexible chew texture and retain moisture so as to maintain the texture when the chew is stored at ambient temperatures. The preferred humectants are glycerine and sorbitol. Typically, the **humectant** is incorporated in the chew product at a concentration of about 1 to 15% by weight and preferably about 4. . . .

DETDESC:

DETD(25)

To prepare the chew product, the starch, **humectant**, proteineous binder, cellulosic fibrous material and oral care additives are transferred to a steam pre-conditioner and subjected to steam and. . . .

DETDESC:

DETD(28)

In . . . care additive, preservative and binder. The pre-mixed solid ingredient is then fed to the preconditioner 18 and admixed with the **humectant** and other liquid ingredients which are fed directly into the preconditioner 18. In the preconditioner 18 the mixture of ingredients. . . .

DETDESC:

DETD(29)

Preconditioning . . . steam and water initiates hydration of the binder which is completed by the mechanical working during the extrusion process. The **humectant** is desirably added after the mixture has been first contacted with the steam/water treatment so as not to compete with. . . .

DETDESC:

DETD(37)

A mix for the preparation of a **dog** chew designated "Chew Product I" was prepared which contained the following ingredients:

DETDDESC:

DETD(38)

Ingredient	Weight %
Wheat Starch	45.42
Corn Cob Fraction*	32.58
Gelatin (225 Bloom)	9.87
Glycerin	4.44
Potassium Sorbate	0.30
Gantrez S-97 (approx. 13% soln)	1.92
K.sub.4 P.sub.2 O.sub.7	4.00
Na.sub.4 P.sub.2 O.sub.7	

DETDDESC:

DETD(40)

This . . . per minute into the preconditioner. Water was introduced into the preconditioner at the rate of 0.50 pound per minute. The **glycerin** and Gantrez ingredients were added to the preconditioner at this point.

DETDDESC:

DETD(43)

A . . . 6 years) were individually fed 4 pieces of the chew product daily together with a diet of a commercial canned **dog** food sold under the name "Hills Canned Canine Maintenance" by Hills **Pet** Products, Topeka, Kansas, adequate to maintain the weight of each **dog** for a one week test period. The dogs were fed the canned **dog** food at about 8 a.m. and two (2) chews at about 10 a.m. and again at about 3 p.m. The . . .

DETDDESC:

DETD(44)

In observing the eating style of the dogs, it was noted that although the canned **dog** food ration tended to be gulped by the dogs, the spongy cellular chew product was chewed repeatedly before being swallowed. This chewing action increased the residence time that the chew product was in the **dog's** mouth thereby increasing the contact time with the teeth of the corn cob particles and pyrophosphate salts contained in the. . .

DETDDESC:

DETD(45)

Prior to the feeding test, each **dog** had been given a thorough dental prophylaxis to remove existing soft and hard deposits on the buccal surfaces of the maxilla and mandible (a total of 22 teeth per **dog**).

DETDESC:

DETD(46)

The teeth of each **dog** in the group was examined for plaque, stain and tartar upon the completion of the test period.

CLAIMS:

CLMS(1)

What . . .

a cellulosic fibrous material, water to adjust the moisture concentration equal to or greater than 12% by weight and a **humectant** at a concentration of about 1 to about 15% by weight, said moisture imparting flexibility to the composition and retaining. . .

CLAIMS:

CLMS(12)

12. The composition of claim 1 wherein a **humectant** is incorporated in the product at a concentration of about 1 to about 15% by weight.

CLAIMS:

CLMS(13)

13. The composition of claim 12 wherein the **humectant** is **glycerin**.

CLAIMS:

CLMS(17)

17. . . . a cellulosic fibrous material, water to adjust the moisture concentration equal to or greater than 12% by weight and a **humectant** at a concentration of about 1 to about 15% by weight, said moisture imparting flexibility to the composition and retaining. . .

CLAIMS:

CLMS(28)

28. The method of claim 17 wherein a **humectant** is incorporated in the product at a concentration of about 1 to about 15% by weight.

CLAIMS:

CLMS(29)

29. The method of claim 28 wherein the **humectant** is **glycerin**.

17. 4,743,460, May 10, 1988, Soft canine biscuit containing discrete particles of meat and other materials and method for making same; Gary Gellman, et al., 426/549, 623, 630, 646, 805 [IMAGE AVAILABLE]

US PAT NO: 4,743,460 [IMAGE AVAILABLE]

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ABSTRACT:

A dry soft canine biscuit having visually apparent, discrete particles, which contain (i) meat and/or meat by-product and/or (ii) farinaceous material and/or textured vegetable protein, distributed substantially uniformly throughout the biscuit is obtained by blending the non-fat

solid portion of a soft biscuit dough with particles which are substantially inert with respect to the biscuit dough. Mixing the dry-blended mixture with water plus optional **humectant** to form an intermediate stage dough, admixing the latter with the fat portion of the biscuit dough to form a final dough, forming the final dough using low shear into pieces, and baking and drying the formed pieces to obtain a microbiologically stable product which can be packaged without a barrier material. The particle inertness is made possible by using particles having: (1) a moisture content of 35 percent by weight or less and, (2) a water activity which is less than the water activity of the soft biscuit dough. There is a substantial absence of particle color bleed into the biscuit. An example of the textured vegetable protein is textured soy protein; and an example of the farinaceous material is wheat. The discrete, visually apparent dehydrated meat particles enhance the palatability and visual attractiveness of the dry biscuit.

ABSTRACT:

A . . . with particles which are substantially inert with respect to the biscuit dough, mixing the dry-blended mixture with water plus optional **humectant** to form an intermediate stage dough, admixing the latter with the fat portion of the biscuit dough to form a . . .

SUMMARY:

BSUM(5)

Dry **pet** food are commonly cereal type materials having a low moisture content of less than about 15 percent by weight. As . . . containers, such as a box, without the need for hermetic sealing and without the need for a moisture barrier. Dry **pet** foods typically have low palatability because of their low moisture content.

SUMMARY:

BSUM(6)

The incorporation of meat products, fish products, and poultry products into a farinaceous **pet** food to improve palatability and to improve nutritional values of dry **pet** foods, intermediate moisture products and high moisture content **pet** foods (more than about 50 percent by weight of water) is known in the art.

SUMMARY:

BSUM(7)

U.S. . . . high moisture content of the product, it must be packaged in cans. In U.S. Pat. No. 4,158,706 a high moisture **pet** food product containing farinaceous and proteinaceous components such as meats, fish and poultry is impregnated with a preservative such as . . .

SUMMARY:

BSUM(8)

The production of dry **pet** foods which contain proteinaceous and farinaceous material is disclosed in U.S. Pat. Nos. 3,962,462, 4,020,187, 4,039,689, 4,055,681, 4,145,447, 4,215,149 and . . .

SUMMARY:

BSUM(9)

In . . . cohesive dough is formed. A stabilizing system comprising a sugar, an edible acid and an antimycotic provides stability within the

pet food when the **pet** food is subjected to semi-moist conditions. The product is produced in wafer form for packaging with a semi-moist **pet** food. The proteinaceous material includes meat, such as the flesh of cattle, swine, sheep, poultry and fish, as well as. . .

SUMMARY:

BSUM(11)

A dry, but soft, **pet** food is produced in U.S. Pat. No. 4,039,689 using low temperatures and pressures. The use of the low processing temperatures, less than about 130.degree. F., leads to the soft dry nature of the **pet** food, it is disclosed. Meat and meat by-products as well as dried animal by-products can be used as a protein source for the **pet** food in U.S. Pat. No. 4,039,689. The dried animal by-products include meat meal and bone meal.

SUMMARY:

BSUM(12)

U.S. Pat. No. 4,055,681, like U.S. Pat. No. 4,039,689, produces a soft dry **pet** food having a meat-like texture and appearance. Meat meal is disclosed as a protein source and fresh meat and meat by-products are used to impart palatability to the **pet** food.

SUMMARY:

BSUM(13)

In the production of the dry **pet** food products according to the processes of the above patents, the use of wet meat products causes substantial smearing of. . .

SUMMARY:

BSUM(14)

A hard dry **pet** food is produced in U.S. Pat. No. 4,145,447. High pressures of at least about 100 p.s.i. are used to obtain. . . animal's teeth. The product is a long-lasting one which requires about 30 minutes to 2 hours for a 25 lb. **dog** to consume. Dry components are mixed until homogeneous and then sufficient water is added to wet the product without affecting. . . can contain air-dried, freeze-dried or irradiated foods such as meat, fish, fish meal, cereals, fruits, vegetables and the like. Protein **fibers**, such as those derived from soy protein and wheat gluten, or animal **fibers**, such as those derived from skin, muscles, and intestines, are optionally added to support the structure of the product. The animal **fibers** can be prepared by cutting, chipping, grinding, shredding, shearing or beating animal skins such as cowhide or rawhide. The high pressure used in the process of U.S. Pat. No. 4,145,447 makes the process costly. Also, the structure-supporting **fibers** derived from animal tissue, which are optionally used in the process of U.S. Pat. No. 4,145,447, are low in palatability.. . .

SUMMARY:

BSUM(15)

U.S. Pat. Nos. 4,215,149 and 4,229,485 disclose processes for improving the palatability of dry **pet** foods by applying a coating, which contains proteins derived from animals, to the surface of the **pet** food. In U.S. Pat. No. 4,215,149 the surface of the **pet** food is treated with fat and then with a phosphoric acid salt. Treatment of the

surface of the **pet** food with meat flavors and animal proteins is optional. Heating of the coated **pet** food, it is disclosed, must be avoided.

SUMMARY:

BSUM(17)

U.S. Pat. No. 4,310,558 teaches producing a dry **pet** food product containing fibrous food pieces having a tough, pliable texture combined with a basal matrix containing proteinaceous and farinaceous. . . . The mixture is mechanically worked under conditions of elevated temperature and pressure and finally extruded to form an expanded dry **pet** food product having a porous texture interspersed with food pieces having a tough, pliable fibrous texture. The mechanical working and. . . .

SUMMARY:

BSUM(21)

According . . . the particles, there is not any loss of discreteness of the particles in the final dry soft canine biscuit. Suitable food-**pet** food grade dyes are used in the formation of the particles in order to color dark brown the farinaceous material. . . .

SUMMARY:

BSUM(22)

The . . . the meat particles with the non-fat solids portion of a biscuit dough, admixing the dry-blended mixture with water plus optional **humectant** and then adding the fat portion of the biscuit dough to form a dough. The invention process forms the dough. . . .

SUMMARY:

BSUM(31)

Microbiological . . . known in the art. For example, to reduce the water activity, food additives conventionally used for this purpose such as **glycerin**, propylene glycol, salt, corn syrup, sugar and the like can be included in the meat and/or meat by-product containing particles. . . .

SUMMARY:

BSUM(38)

Known . . . as those disclosed in U.S. Pat. No. 4,229,485 at column 5, lines 7 to 25 and 37 to 57, a **humectant** such as sugar, propylene glycol, **glycerin**, sorbitol and corn syrup, and chemical leavening. The compositions of the invention also preferably contain at least one animal-derived proteinaceous. . . . about 10 to about 15 percent by weight of sugar (e.g., sucrose), about 5 to 15 percent by weight of **humectant**, about 3 to about 10 percent by weight of meat meal, about 1 to about 5 percent by weight of. . . . 10 percent by weight of fat and about 5 to about 20 percent by weight of sugar. Use of the **humectant** is optional, but is preferred to enhance the softness of the product and to effect less breaking force. Suitable humectants are known in the art and include **glycerin**, sorbitol, propylene glycol, corn syrup and sugar. Chemical leavening, known in the art can be used. Exemplary thereof is calcium. . . .

SUMMARY:

BSUM(41)

All . . . particles and non-fat portion of the biscuit dough. The dry-blended mixture is then mixed with the hot water plus optional **humectant** to form a first stage dough. This methodology minimizes the occurrence of meat and/or meat by-product containing particles substantially above. . . mixture is typically at a temperature of about 65.degree. F. to about 150.degree. F. The hot water and the optional **humectant** is added, with mixing, over a period of time of about 3 minutes to about 10 minutes to form the. . .

SUMMARY:

BSUM(42)

Formation . . . time or in a one-shot manner according to the above order of addition. However, melted fat and water plus optional **humectant** may be added simultaneously and mixed 6 to 12 minutes.

SUMMARY:

BSUM(49)

As . . . milling by-products of the cereal grains, such as wheat feed flour, wheat middlings, what mixed feed, wheat shorts, wheat red **dog**, oat groats, hominy feed, and any other such material. Also included are protein concentrates of farinaceous ingredients such as wheat. . .

SUMMARY:

BSUM(53)

A food-**pet** food grade dye or colorant is preferably used to dye the farinaceous material and/or textured (or texturizable) vegetable protein. Preferably. . . an artificial or synthetic food grade dye is used in combination with drug and cosmetic dyes approved for use in **pet** foods. Examples of useful **pet** food dyes are brown and black iron oxide. The main criterion of a useful food-**pet** food grade dye within the scope of the invention is that the food-**pet** food grade dye has not run or bleed (at least to any degree visible by the human eye) in final soft biscuit. A food-**pet** food grade dye should be used which has a very high degree of fastness for the farinaceous material and/or textured vegetable protein. The water-soluble food-**pet** food grade dyes can be used as such or can be used emulsified in oil or fat to color the. . .

DETDESC:

DETD(4)

Then, . . . the non-fat solids portion of a soft biscuit dough, the fat portion of the soft biscuit dough and water plus **humectant** to form a dough in accordance with the process of the invention. The ingredients, amounts, and the process for making. . .

DETDESC:

DETD(5)

Biscuit and Meat Chips Pounds

Wheat Flour (soft flour of	
	400
about 9% by weight protein)	
Sugar	117
Glycerin (humectant)	100

Dehydrated Cured Meat	150
Skim Milk Powder	16
Meat Meal	36
Chemical Leavening	17
Salt	4
Animal Fat Preserved.	.

DETDESC:

DETD(6)

The . . . for 10 minutes. Then the 200 pounds of water, at a temperature of 150.degree. F. plus the 100 lbs of **glycerin** at ambient temperature were added together with 140.degree. F. fat to the preblend and mixed for 6 minutes to form. . .

DETDESC:

DETD(13)

The . . . in flour form; the proteinaceous/flavoring agent was also in particle form. The color was synthetic brown food grade and brown **pet** food grade iron oxide dyes that had good fastness for the non-meat ingredients. All of the ingredients were thoroughly mixed. . .

DETDESC:

DETD(20)

The . . . in flour form; the proteinaceous/flavoring agent was also in fine particle form. The color was a synthetic brown food and **pet** food grade dyes that had good fastness for the non-meat ingredients.

CLAIMS:

CLMS(1)

What . . .

based on the total weight of said dehydrated particles whereby said
b